

ABSTRACT OF THE DISCLOSURE

In a monochromatic image display system, the number of tone levels which can be expressed is multiplied. As a display device, a liquid crystal panel 40 which can express each picture element 41 of a monochromatic image by three cells 41a, 41b and 41c is employed. A tone number conversion processing means 20 carries out a tone number conversion processing on an input original image signal S_{orig} according to the maximum number of tone levels which can be expressed by the liquid crystal panel 40, thereby obtaining a monochromatic image signal S_0 . Luminance of the monochromatic image signal S_0 is allotted to the cells 41a, 41b and 41c. Time modulation is carried out on each cell by a time modulation means 12 which can express four tone levels (but tone level 0) so that each cell outputs allotted luminance. In this manner, the liquid crystal panel 40 can express thirteen tone levels ($4 \times 3 + 1 = 13$) in total (tone level 0 inclusive).